

# RECYCLING INFORMATION for District Cities

January 12, 2009

Compiled by Nathan Rich, Executive Director  
Wasatch Integrated Waste Management District  
801.614.5601

This information is being provided for members of Wasatch Integrated Waste Management District in response to recent questions regarding recycling for cities within the District. The information provided is intended to be informational only, particularly as recycling relates to current District programs, and is not a statement of District policy.

**Does recycling benefit the environment?** This is not an easy question and the answer depends upon how you measure environmental benefit. Recycling tends to benefit the environment primarily through a reduction in energy required to recycle rather than use raw materials in the manufacturing process. The benefit varies widely depending upon the material being recycled. While there is some controversy over environmental benefits, the EPA has recently completed a lifecycle analysis that does support the general environmental benefit of recycling, particularly as it relates to climate change. There are lots of web sites on recycling, but very few that have direct scientific references.

EPA website on recycling and publications about calculating environmental benefit.

<http://www.epa.gov/epawaste/consERVE/rrr/recycle.htm>

<http://www.epa.gov/epawaste/nonhaz/municipal/pubs/06benefits.pdf>

<http://www.epa.gov/epawaste/nonhaz/municipal/pubs/msw07-fs.pdf>

<http://www.epa.gov/epawaste/nonhaz/municipal/pubs/msw07-rpt.pdf>

As for arguments against recycling, this is a link to the famous "recycling is garbage" article.

<http://www.williams.edu/HistSci/curriculum/101/garbage.html>

[http://en.wikipedia.org/wiki/Recycling\\_criticism](http://en.wikipedia.org/wiki/Recycling_criticism)

This Waste Management Recycle America site has a great list of pro recycling links.

<http://www.recycleamerica.com/press/links.asp>

**What is my city currently doing about responsible solid waste management?** As a member of Wasatch Integrated Waste Management District, your city is one of the most progressive cities in Utah when it comes to environmentally responsible management of your solid waste. The District operates a modern waste-to-energy facility which uses your waste to supply heat to Hill Air Force Base offsetting the combustion of natural gas. Other programs and projects operated by the District include a landfill gas to energy project, green waste recycling, household hazardous waste recycling and disposal, steel recycling, and availability of recycling bins for residential use. This system currently keeps about 50% of the waste generated in the District from ending up in the landfill. The average recycling rate in Utah is about 5%.

More information about the system operated by Wasatch Integrated can be found at:

<http://www.wasatchintegrated.org/>

<http://www.wasatchintegrated.org/PDF/Press%20Release->

[What%20Happens%20to%20My%20Garbage.pdf](http://www.wasatchintegrated.org/PDF/Press%20Release-Davis_recycle_06.pdf)

[http://www.wasatchintegrated.org/PDF/Press%20Release-Davis\\_recycle\\_06.pdf](http://www.wasatchintegrated.org/PDF/Press%20Release-Davis_recycle_06.pdf)

**How does recycling compare to waste-to-energy?** According to recent EPA life cycle analyses (see above reports) recycling of waste materials has a lower impact on the environment than incineration with energy recovery, which provides substantial benefit over landfill (as described in the EPA solid waste management hierarchy). However, recycling and waste-to-energy are not mutually exclusive and each is best applied to a different subset of the wastes we generate. After all recyclable materials are removed from the waste stream there is still plenty of waste which can be processed in our waste-to-energy facility. I suggest that recycling, particularly a curbside collection program, should be considered on its own merits, as another method of disposing of our waste.

These are some links with more information about waste-to-energy.

[http://www.wasatchintegrated.org/PDF/ASME\\_WTE\\_position.pdf](http://www.wasatchintegrated.org/PDF/ASME_WTE_position.pdf)

<http://www.wte.org/>

[http://www.wte.org/docs/Waste\\_Not\\_Want\\_Not.pdf](http://www.wte.org/docs/Waste_Not_Want_Not.pdf)

<http://www.seas.columbia.edu/earth/wtert/index.html>

**What about curbside collection of recyclables?** Curbside collection of recyclables is a convenient way to make recycling widely accessible, but adds cost in the collection and sorting processes. Also, additional traffic and air emissions from the collections vehicles should be considered. Typical curbside collection programs are “single stream” or “comingled” where all recyclables are placed together into a can separate from the usual garbage can. The can is then collected using the same equipment as used for waste collection, on a separate route, and delivered to a Materials Recovery Facility (MRF). In the MRF a combination of mechanical and manual methods are used to separate recyclables from each other and from trash. Recyclable materials are then bailed for shipment to mills or other processors which do the actual recycling. There are currently two (2) commercially operated MRFs in the Salt Lake valley which will accept comingled materials generated from a curbside program. One is operated by Waste Management Recycle America and the other one is operated by Rocky Mountain Recycling.

**How much does curbside collection cost?** A mandatory biweekly curbside collection program was implemented in Woods Cross beginning in April 2008 at a cost of \$3.00 per household. During the third quarter of 2008, the program diverted approximately 30 lbs/household-month or just more than 11% of the total household waste generated (20% of which was garbage and therefore not recyclable). During this period the cost to Woods Cross residents to recycle was approximately \$200 per ton. If diversion rates increase, the unit cost would be lower, at 15% diversion rate the cost would be roughly \$150 per ton. A \$3.00 per month increase in waste disposal fees constitutes a 25 to 30 percent increase in most cities in the District. Also, due to current market conditions, a curbside collection program will be hard to bid and may cost substantially more (see discussion on markets below).

**Should we consider mandatory or subscription service?** When contracting for curbside collection of recyclables, a mandatory program will result in the lowest possible unit cost because the provider will be able to accurately estimate system costs and because the collection routes will be more efficient with cans at each house. Also total volumes collected will be higher making MRF operation more efficient. Costs for subscription or voluntary collection programs will be 2 to 3 times more expensive than mandatory programs. In short, successful curbside collection programs are mandatory.

**Will recycling extend the life of our landfill?** Yes. If every city in the District implemented a curbside collection program the life of the landfill would be extended by approximately 2 years. When the landfill is full we will need to transfer our waste to a regional landfill some distance away at an increased cost of \$15 to \$20 per ton. Remember, the curbside program costs \$150 to \$200 per ton. Extending the life of the landfill does provide a benefit, but taken alone does not justify the added cost of curbside collection of recyclables.

**Does recycling compete with our Waste to Energy facility?** No. Recycling is completely compatible with waste-to-energy, both at our facility and nationally. After all recyclable materials have been removed from the waste stream, plenty of contaminated material remains which can be processed in the energy recovery facility. A recent nationwide study shows that communities which use waste-to-energy technology also tend to have higher recycling rates.

[http://www.wte.org/docs/2008\\_Berenyi\\_compatibility\\_study.pdf](http://www.wte.org/docs/2008_Berenyi_compatibility_study.pdf)

**What is happening in recycling markets?** In the past two months commodity prices for recovered materials have seen substantial decreases. Corrugated and mixed paper that was selling for over \$100 per ton several months ago is now virtually worthless. This means that the cost of collection programs is currently substantially higher because the collection companies are not receiving value from collected materials. I recommend that any consideration of contracting for curbside collection of recyclables should be postponed 4 to 6 months to see how the commodity markets rebound from this crash. You should have no current expectation of receiving the \$3/household type pricing which was common 3 months ago.

This is a recent story which ran on ABC.

<http://abcnews.go.com/Video/playerIndex?id=6583361>

**What about green waste recycling?** The District is currently working toward implementation of a curbside green waste collection program with a pilot project planned for this coming spring in which we hope to have two or three cities participate. The current concept would look to convert a percentage of second cans into green waste cans, and would not necessarily be mandatory. These are some of the reasons we are interested expanded green waste recycling.

- Typical residential garbage contains about 30 percent yard trimmings by weight.
- Clean green waste (yard trimmings) can be easily recycled at the green waste recycling facility already operated by Wasatch Integrated Waste Management District.
- Recycling green waste is an example of up-cycling, which turns something with no value into valuable products (compost and mulch).
- Recycling is done locally and under the control of the city.
- Recycled green waste products help conserve water when used in local landscapes.
- Recycling green waste will improve the performance of the energy recovery facility (incinerator) and extend the life of the landfill.
- Recycling green waste reduces green house gas emissions.